

Table of Comparative Minimum Temperatures for the Month of February.

State or Territory.	Minimum for February, 1882, Signal Service.		Lowest since Signal Service stations were opened—3 to 11 years.			Lowest from any other source.			
	Station.	Temp.	Station.	Temp.	Year.	Place.	Temp.	Year.	Length of Record.
Alabama	Montgomery	32	Montgomery	32	1875	Huntsville	-7	1832 & '36	9 years.
Arizona	Prescott	5	Prescott	-11	1880	Fort Canby	-12	1855	12 "
Arkansas	Little Rock	28	Little Rock	23	1881	Fort Smith	-4	1840	21 "
California	Campo	17	Campo	16	1877	Fort Bidwell	-18	1868	19 "
Colorado	Pike's Peak	-17	Pike's Peak	-37	1875	Fort Garland	-23		22 "
Do	West Las Animas	4	Denver	-20	1881				
Connecticut	New Haven	7	New Haven	-4	1881	Colebrook	-28	1861	9 "
Dakota	Fort Stevenson	-35	Pembina	-48	1876	Fort Abercrombie	-40	'61 & '69	15 "
Delaware	Delaware Breakwater	24	Delaware Breakwater	7	1881	Fort Delaware	0	1866?	44 "
Dist. of Columbia	Washington	20	Washington	-1.5	1875	Washington	-5		49 "
Florida	Pensacola	37	St. Marks	28	1875	Fort Barrancas	11	1852?	52 "
Georgia	Augusta and Atlanta	31	Atlanta	21	1881	Augusta Arsenal	-2	1835	48 "
Idaho	Eagle Rock	-29	Eagle Rock	-19	1881	Fort Hall	-11	1873?	3 "
Illinois	Champaign and Chicago	11	Chicago	-13	1875	Winnebago	-26	1864	11 "
Do						Fort Armstrong	-24	'30 & '35	9 "
Indiana	Indianapolis	15	Indianapolis	-8	1875	Sjiceland	-21	1866	7 "
Indian Territory	Fort Supply	12	Fort Supply	-8	1881	Fort Gibson	-13	1857?	46 "
Iowa	Des Moines	1	Dubuque	-31	1875	Guttenburg	-37	1868	4 "
Kansas	Dodge City	7	Dodge City	-10	1881	Fort Leavenworth	-28	1834?	43 "
Kentucky	Louisville	20	Louisville	0	1875	Newport Barracks	-20		27 "
Louisiana	Shreveport	33	Shreveport	23	'75 & '81	Fort Jesup	7	'23 & '38	23 "
Do						Baton Rouge	10	1852?	52 "
Maine	Eastport	-5	Eastport	-20	1876	Brunswick	-28	1869?	52 "
Maryland	Baltimore	23	Baltimore	4	'75 & '81	Fort McHenry	-4		43 "
Massachusetts	Springfield	3	Boston	-6	1876	Lunenburg	-26	1856	24 "
Do			Springfield	-6	1880	Williamstown	-20	1835?	55 "
Michigan	Marquette	2	Alpena	-27	1881	Ontonagon	-37	1861	11 "
Do			Marquette	-27	1876	Fort Brady	-47	1873	51 "
Minnesota	St. Vincent	-35	Breckenridge	-34	'75 & '79	Fort Ripley	-43	1860	14 "
Do			Duluth	-34	1875				
Mississippi	Vicksburg	32	Vicksburg	21	1875	Columbus	14		10 "
Missouri	Springfield	13	St. Louis	-3	1875	St. Louis	-25	1835	37 "
Do						Jefferson Barracks	-18	1835	35 "
Montana	Terry's Landing	-57	Fort Custer	-29	1881	Fort Ellis	-53	1872	6 "
Nebraska	North Platte	-4	North Platte	-23	1881	Fort McPherson	-24	1874	8 "
Do						Fort Kearney	-22	1852?	19 "
Nevada	Winnemucca	-17	Pioche	-5	1879	Fort Ruby	-19	1864?	5 "
Do			Winnemucca	-6	1880				
New Hampshire	Mount Washington	-21	Mount Washington	-42	1876	Stratford	-37	1861	11 "
Do						Dartmouth College	-33	1848?	18 "
New Jersey	Barneget	-18	Atlantic City	-5	1875	Newark	-7	1861	10 "
Do			Squan Beach	-5	1875				
New Mexico	Santa Fe	11	Santa Fe	-3	'79 & '80	Fort Union	-7		23 "
New York	Albany	7	Albany	-18	1875	Sackett's Harbor	-46	1861	8 "
Do						Belleville	-34	1835	15 "
North Carolina	Smithville	24	Kittyhawk	-11	1881	Fort Johnson	3	1835	54 "
Ohio	Cleveland	17	Toledo	-12	1875	Hillsborough	-22	1838	35 "
Do						Marietta	-18	1852?	63 "
Oregon	Umatilla	4	Umatilla	0	1881	Camp Harney	-16	1868	6 "
Pennsylvania	Philadelphia	18	Erie	-16	1875	Lewisburg	-23	'65 & '67	6 "
Do						Philadelphia	-2	1866	113 "
Rhode Island	Newport	10	Newport	-2	1881	Providence	-16	1866	35 "
South Carolina	Charleston	32	Charleston	-28	1881	Fort Moultrie	6	1835	38 "
Tennessee	Nashville	25	Knoxville	8	1875	Glenwood Cottage	-4	1864?	11 "
Texas	Fort Elliott	13	Fort Elliott	-1	1881	Fort McKavett	8	1873?	22 "
Utah	Salt Lake City	4	Salt Lake City	3	1880	Fort Crittenden	-6		3 "
Vermont	Burlington	-6	Burlington	-18	1881	Randolph	-31	1868	5 "
Virginia	Fort Myer	19	Fort Whipple	1	1881	Al-xandria	3	1856	11 "
Washington Ty.	Spokane Falls	-14	Spokane Falls	-7	1881	Fort Colville	-20	1862?	14 "
West Virginia	Morgantown	21	Morgantown	-10	1875				
Wisconsin	La Crosse	3	La Crosse	-34	1875	Fort Howard	-38	1823	30 "
Do						Superior City	-38	1863	3 "
Wyoming	Fort Washakie	-26	Cheyenne	-12	1881	Fort Fetterman	-40	1873	6 "
Do						Fort Laramie	-35	1864?	25 "

Northern Slope, 1st to 28th; Middle Slope, 1st to 9th, 12th, 14th to 17th, 19th, 21st to 27th; Southern Slope, 9th, 20th to 23d; Southern Plateau, 1st to 28th; Middle Plateau, 1st to 5th, 7th, 8th, 12th, 15th, 17th to 25th, 28th; Northern Plateau, 1st to 7th, 9th to 13th, 15th to 23d; North Pacific Coast Region, 1st, 2d, 3rd, 6th, 7th, 10th, 11th, 13th, 16th to 24th; Middle Pacific Coast Region, 2d, 3d, 4th, 7th, 8th, 10th, 11th, 13th, 14th, 15th, 17th to 23d; Southern Pacific Coast Region, 2d to 5th, 7th, 8th, 9th, 12th to 15th, 18th to 25th, 28th.

Ice.—Regarding its formation in the northern sections, this subject is considered elsewhere in the REVIEW under the head of *Ice in Rivers and Harbors*. The following are exceptional cases of its formation in the southern sections of the country: Princeton, Cal., 19th, $\frac{3}{4}$ inch thick; Fayette, Miss., 1st; Stateburg, S. C., 25th; Ashwood, Tenn., 22d to 25th; Charleston, S. C., 25th, one inch thick in some parts of the city; New River Inlet, N. C., 1st; Denison, Tex., 21st and 22d, on shallow pools; Little Rock, 21st; Memphis, 21st, 22d; Ft. Supply, Ind. Ty., 19th; 21st, $\frac{3}{4}$ inch thick on river; Ft. Elliott, Tex., 20th.

Low Temperatures.—Winnemucca, Nev., 18th, minimum temperature -17° , the lowest ever experienced at this place. The

following notable instances of extremely low temperatures were received too late to be published in the January REVIEW: Parker's Station, Burnt River, Or., January 29th, minimum temperature -26° ; lowest for many years. Canyon, City, Or., January 29th, minimum temperature -4° .

PRECIPITATION.

The general distribution of rain-fall over the United States and Canada for the month of February, 1882, is exhibited upon chart No. III from the reports of over 500 stations. From the table in the left hand corner of the chart is obtained a monthly average for each of the various districts, determined from the records of Signal Service stations, covering a period of several years, to which is subjoined a comparison of the present month with such averages. Upon comparison with the chart the tabulated averages show three areas of deficiency, and one large and irregular area of excess. The latter extends southwestward from the Canadian Maritime Provinces to central Texas, and thence directly west to the Pacific coast, the departures ranging from 0.25 inch in the South Pacific Coast Region to 3.16 inches in Tennessee, and 3.74 inches in the Ohio Valley. Within the central portion of this large area rains were continuous and excessive during the

month, resulting in heavy freshets and an enormous destruction of property, the details of which will appear elsewhere in the REVIEW under the head of *Floods*. Of the areas of deficiency, one embraces the South Atlantic States and Florida Peninsula, departures ranging from 0.57 inch in the former to 2.09 inches in the latter. The second area is found in the Rio Grande Valley, departure 0.21 inch. The third comprises the Extreme Northwest, Missouri Valley, Middle Slope, Middle Plateau, Middle Pacific Coast Region and the remaining districts to the north and west, departures ranging from 0.19 inch in the Extreme Northwest to 1.98 inches in the Middle Pacific Coast Region. As a means of interesting comparison, the following maximum departures from the normal are given for each year since 1873, together with the corresponding districts: 1874, very large excess, South Atlantic States and excess, Ohio Valley and Tennessee; 1875, -2.08 inches Pacific Coast Regions, and +2.00 inches Western Gulf States; 1876, +2.30 inches Upper Lake Region and +1.75 inches Middle Atlantic States; 1877, -2.90 inches Ohio Valley and Tennessee, -2.50 inches Eastern Gulf States and -2.35 inches Lower Lake Region; 1878, +6.12 inches California coast, +5.27 inches, Portland Or., and -2.18 inches Tennessee; 1879, Portland, Or., +5.62 inches, -1.60 inches Western Gulf States, and 1.30 inches Middle States; 1880, +4.54 inches Tennessee, +2.47 inches St. Lawrence Valley and -2.51 inches Portland, Or.; 1881, +4.43 inches North Pacific Coast Region +3.09 inches Upper Lake Region and +2.83 inches Eastern Gulf States and Lower Missouri Valley.

Deviations from Average Precipitation.—Under this heading departures exhibited by the reports from regular Signal Service stations are shown in the table of comparative monthly rain-falls, as published in the lower left-hand corner of chart No. III. The following items of importance are reported by Voluntary Observers: *Illinois*: Riley, total precipitation for month 2.15 inches or 0.71 inch more than the average of the past 19 years. Larger monthly precipitations occurred in 1861, 1869, 1876 and 1881. Total precipitation for winter of 1881-2 was 6.41 inches or 1.21 inches more than the average of the past 18 years. Only the winters of 1866-7, 1873-4, 1875-6, 1879-80 and 1880-1 had larger precipitations. *Indiana*: Vevay, total precipitation for the month 6.70 inches or 3.77 inches above the average of the past 17 years. *Iowa*: Clinton, monthly rain-fall below the average. *Kansas*: Manhattan, monthly precipitation 0.42 inch or 0.53 inch below the average of the past 22 years. Wellington, monthly precipitation 1.18 inches or 0.63 inch above the average of the past 3 years. Lawrence, monthly precipitation 1.66 inches or 0.43 inch above the February average of the past 14 years; during that period the largest monthly precipitation, 4.60 inches, occurred in 1881; the smallest, 0.03 inch, occurred in 1870. Yates Centre, monthly precipitation 2.89 inches or 0.74 inch above the average of past 2 years. *Maine*: Gardiner, monthly precipitation 4.96 inches or 1.67 inches above the average of the past 46 years. *Maryland*: Fallston, monthly precipitation 4.79 inches or about 1.50 inches above the average of the past 11 years. *Missouri*: St. Louis, Missouri Weather Service reports: monthly precipitation 7.34 inches, which has been exceeded only once since 1839, viz: in 1854, when the amount was 7.74 inches. *New Hampshire*: Couteocookville, monthly snowfall, 37 inches which is larger than for any winter month during the past 12 years, with the exception of December, 1876, when 42 inches fell. *New York*: North Volney, monthly precipitation 2.70 inches or 0.02 inch above the average of the past 9 years; during that period the largest monthly precipitation, 4.70 inches, occurred in 1876 and the smallest, 0.30 inch, occurred in 1877. The total precipitation for winter of 1881-2; was 11.20 inches average for 9 previous winters, 9.12 inches; largest, 13.95 inches, occurred in 1879; smallest, 5.95 inches, occurred in 1877. Palermo, monthly precipitation 2.50 inches or 0.30 inch below the average of February for the past 29 years; largest during that period, 7.20 inches, occurred in 1866; smallest 0.10 inch, occurred in 1877. *Ohio*: Cleveland, monthly precipitation, 3.14 inches or 0.88 inch above the aver-

age of the past 27 years; during that period the largest monthly precipitation 4.90 inches occurred in 1876 and the smallest 0.25 inch, occurred in 1877. *Texas*: Clarksville; monthly rain-fall greater than the average of the corresponding month for past 12 years. *Virginia*: Wytheville, monthly precipitation 5.09 inches or 1.60 inches above the average of past 18 years. *West Virginia*: Helvetia, monthly precipitation 6.95 inches or an excess of 3.77 inches above the average of past 6 years.

Special Heavy Rains.—2d and 3d, New Ulm, Tex., 3.00 inches; Ft. Barrancas, Fla., 3.92. 3d, Vicksburg, 2.62; Shreveport, 2.97. 4th, Kittyhawk, N. C., 2.59; Barnegat, N. J., 3.50. 7th, Proteom, Mo., 1.44 in 7 hours. 7th and 8th, Mt. Ida, Ark., 4.75. 8th, Little Rock, 3.33, Montgomery, 3.01; Auburn, Ala., 3.56, in 14 hours; Decatur, Tex., 2.73. 9th, Mayport, Fla., 1.00, in 45 minutes. 16th, Proteom, Mo., 2.00, from daylight to 9 a. m. 18th and 19th, College Hill, Ohio, 3.00. 19th, St. Louis, 3.96. 19th and 20th, Swanwick, Ill., 3.60; New Harmony, Ind., 4.30; Springfield, Ill., 2.69; Jefferson Barracks, Mo., 5.12. 20th, Indianapolis, 3.02; Louisville, 2.97; Springfield, Ill., 3.28; Bethel, Ohio, 2.50; Ft. Scott, Kan., 2.75, in 23 hours; Proteom, Mo., 1.49, in 5 hours; St. Louis, 2.75. 27th and 28th, Highlands, N. C., 4.00; Eola, Or., 3.30. 28th, Little Rock, 2.57; Atlanta, 2.78; Auburn, Ala., 2.33, in 9 hours; Proteom, Mo., 1.34 in 3 hours. On the 19th, 20th and 21st, St. Meinrad, Ind., 4.50; Curryville, Mo., 8.07.

Largest Monthly Rain-falls, including Melted Snow.—Fort Stevens, Or., 13.27 inches; Little Rock, Ark., 12.74; Auburn, Ala., 11.31; Highlands, N. C., 11.00; New Ulm, Tex., 10.94; Mt. Ida, Ark., 10.80; Portland, Or., 10.49; Fort Canby, Wash. Ty., 10.48; Fort Gaston, Cal., 10.46; Atlanta, Ga., 10.29; Memphis, 9.92; New Shoreham, R. I., 9.73; Louisville, 9.69; Olympia, Wash. Ty., 9.60; College Hill, Ohio, 9.50; Montgomery, Ala., 9.27; St. Meinrad, Ind., 9.20; Fort Barrancas, Fla., 9.16; Laconia, Ind., 9.13; Eola, Or., 9.06; Proteom, Mo., 8.98; St. Louis, 8.94; Barnegat, N. J., 8.91; Shreveport, 8.71; Nashville, 8.58; New Harmony, Ind., 8.56; Clarksville, Tex., 8.25; Anna, Ill., 8.17; Chamois, Mo., 8.08; Charleston, Ill., and St. Charles, Mo., 8.01; Rolla, Mo., 8.00; Austin, Tenn., 7.95; Springfield, Ill., 7.92; Forsyth, Ga., 7.90; Wellsboro, Pa., 7.86; White Plains, N. Y., 7.80; Princeton, Mass., 7.78; Murfreesboro, Tenn., 7.62; Murphy, N. C., 7.40; Westborough, Mass., 7.32; Ashwood, Tenn., 7.30; San Geronio, Cal., and Springfield, Mo., 7.29; Indianapolis, 7.28; Chattanooga, Tenn., 7.24; Swanwick Ill., 7.17; Vicksburg, 7.15; Cincinnati, 7.04; Bethel, Ohio, 7.00; Jefferson Barracks, Mo., 6.96; Helvetia, W. Va., 6.95; Vevay, Ind., 6.70; New Corydon, Ind., 6.68; Mascoutah, Ill., 6.54; Spiceland, Ind., 6.53; Big Creek and Centerville, Mo., 6.46; Charlottetown, P. E. I., 6.37; Jacksonburg, Ohio, 6.25; Dayton, Wash. Ty., 6.16; Northport, Mich., 6.15; Bowling Green, Ky., 6.11; Knoxville, Tenn., 6.10; South Lee, Mass., 6.00.

Smallest Monthly Rain-falls, including Melted Snow.—Browns, Hot Springs, Reno, and Tecoma, Nev., and Mammoth Tank, Cal., Casa Grande, Maricopa, and Texas Hill, Ariz., none; Ft. Meade, Dak., and Yuma, Ariz., 0.01 inch; Duluth, Minn., Ft. Custer, Mont., St. Augustine, Fla., and West Las Animas, Col., 0.02; Smithville, Dak., 0.03; Cheyenne, Wyo., and Wadsworth, Nev., 0.05; Santa Fe, N. M., 0.06; Ft. Sully and Yankton, Dak., 0.09; Forts Lincoln and Yates, Dak., and Camp Near Presido, Tex., 0.10; Rio Grande City, Tex., 0.11; Ft. Washakie, Wyo., and Terry's Landing, Mont., 0.12; North Platte, Neb., 0.13; Foley, Mont., 0.14; Ft. Elliott, Tex., 0.16; Ft. Bridger, Wyo., and Ft. Keogh, Mont., 0.18; Rapid City, Dak., 0.19; Denver, Ft. McDermitt, Nev., and Punta Bassa, Fla., 0.20; Deadwood, Dak., 0.21; Dodge City, Kan., and Ft. Garland, Col., 0.22; Ft. Shaw, Mont., 0.23; Ft. Assinnaboine, Mont., 0.24; Fremont and Inavale, Neb., and Huron, Dak., 0.25; Ft. Snelling, Minn., 0.28; Ft. Buford, Dak., 0.29; Bismarek and Ft. Totten, Dak., 0.30; Lordsburgh, N. M., and Superior City, Neb., 0.35; Pike's Peak, 0.36; Helena, Mont., and Pioche, Nev., 0.37; Ft. Benton, Mont., 0.38; Avan, Neb.,

and Key West, Fla., 0.40; Manhattan, Kan., and Salt Lake City, 0.42; Ft. Hale Dak., and White Water, Cal., 0.48; Elko and Toano, Nev., New Chicago, Mont., Stockham, Pawnee and Weeping Water, Neb., and Tracy, Cal., 0.50.

Rainy Days.—The number varied in New England from 12 to 21; Middle Atlantic States, 10 to 18; South Atlantic States, 4 to 13; Florida Peninsula, 3 to 10; East Gulf States, 11 to 14; West Gulf States, 7 to 16; Rio Grande Valley, 3 to 10; Ohio Valley and Tennessee, 10 to 17; Lower Lake Region, 12 to 19; Upper Lake Region, 9 to 20; Extreme Northwest, 5 to 11; Upper Mississippi Valley, 5 to 14; Missouri Valley, 4 to 14; Northern Slope, 3 to 8; Middle Slope, 2 to 7; Southern Slope, 3 to 9; Southern Plateau, 6 to 11; Middle Plateau, 7 to 10; Northern Plateau, 6 to 17; North Pacific Coast Region, 20 to 24; Middle Pacific Coast Region, 10 to 12; South Pacific Coast Region, 2 to 10.

Cloudy Days.—The number varied in New England from 5 to 17; Middle Atlantic States, 6 to 13; South Atlantic States, 5 to 16; Florida Peninsula, 0 to 2; East Gulf States, 6 to 12; West Gulf States, 2 to 15; Rio Grande Valley, 4 to 16; Ohio Valley and Tennessee, 10 to 15; Lower Lake Region, 8 to 15; Upper Lake Region, 9 to 17; Extreme Northwest, 2 to 9; Upper Mississippi Valley, 4 to 9; Missouri Valley, 4 to 12; Northern Slope, 0 to 7; Middle Slope, 1 to 3; Southern Slope, 5 to 13; Southern Plateau, 2 to 5; Middle Plateau, 5 to 9; Northern Plateau, 10 to 16; North Pacific Coast Region, 15 to 17; Middle Pacific Coast Region, 6 to 9; South Pacific Coast Region, 2 to 6.

Snow.—The dates on which snow fell in the various districts are as follows: New England, 1st to 13th, 17th to 24th, 26th, 27th; Middle Atlantic States, 1st to 6th, 10th, 12th, 19th to 24th; South Atlantic States, 4th, 5th; Tennessee, 4th, 21st; Ohio Valley, 2nd, 4th, 5th, 21st to 24th; Lower Lake Region, 1st to 5th, 7th, 10th, 17th to 24th; Upper Lake Region, 1st to 7th, 9th, 11th, 14th, 16th to 26th; Extreme Northwest, 1st, 3rd, 6th, 9th, 12th, 14th to 19th, 22nd; Upper Mississippi Valley, 4th, 5th, 17th to 21st; Missouri Valley, 2nd, 16th to 21st, 23rd, 24th; Northern Slope, 3rd, 5th to 8th, 10th to 21st, 23rd, 26th to 28th; Middle Slope, 1st, 6th, 7th, 11th, 12th, 17th to 22nd, 26th, 27th; Southern Slope, 2nd, 3rd, 8th, 19th, 20th; Southern Plateau, 1st, 2nd, 6th, 7th 11th, 16th, 18th to 20th, 26th, 27th; Middle Plateau, 1st, 5th to 7th, 9th to 12th, 15th to 17th, 20th, 21st, 26th 27th; Northern Plateau, 5th, 7th to 9th, 11th, 12th, 13th, 15th, 16th, 17th, 20th to 27th; North Pacific Coast Region, 7th to 14th, 16th, 17th, 19th, 20th, 23rd, 25th, 26th, 27th; Middle Pacific Coast Region, 10th, 11th, 12th, 17th, 18th; South Pacific Coast Region, 1st, 6th, 16th to 20th. Particularly heavy or remarkable snow falls were reported as follows: Contoocookville, N. H., 5th, snow fell to a depth of 20 inches and drifted badly. Newport, R. I., 5th, snow one foot deep on a level and drifted to depths of from 2 to 10 feet. Eastport, Me., the storm of the 5th was one of the severest that has visited this section for years. It was accompanied by a heavy blinding snow which drifted badly, making travel through the country very difficult for several days. Dubuque, Iowa, 20th and 21st, heavy snow storm; trains delayed; telegraphic communication interrupted. The Illinois Central Railroad Company ran their snow plows for the first time this season. La Crosse, 20th, heavy snow storm set in at 11 a. m. and continued throughout the day; the snow being light drifted badly, causing delay of trains. 21st, storm ended about 1.30 p. m.; depth of snow about 16 inches. St. Paul, 21st, snow storm ended at 12.50 p. m., nearly 2 feet having fallen during 20th and 21st, which is badly drifted. All trains delayed on account of snow blockades, which are reported as being very numerous in the southern part of State. Fort Washakie, Wyo., 20th heavy snow in mountains; stage abandoned; mails brought in on horseback. Prescott, Ariz., 20th, snow reported to be 6 feet deep on the mountains. Eagle Rock, Idaho, 17th, 7.50 a. m. to 3 p. m., one of the severest snow storms of the season; trains on the Utah Northern Railroad delayed by blockades. 22nd, mails still delayed

on account of snow blockades. Salinas City, Cal., 17th, snow fell to a depth of $\frac{3}{4}$ inch, "which is more than has ever before been known to fall at this place." Springfield, Mass., 1st, heaviest storm since 1854, snow 22 inches on the level. Heavy storms in former years occurred as follows: January, 1857, 17 inches; January, 1867, 17 inches; December, 1869, 12 inches; February, 1873, 12 $\frac{1}{2}$ inches. The great snow storm of January, 1867, impeded travel to a much greater extent than did the present storm, but the depth of snow was considerably less, the trouble at that time being the drifting by the heavy wind which accompanied the storm. Stockbridge, Mass., 1st, snow 22 inches on the level; heaviest storm for past 30 years. Carbondale, Pa., 4th, heaviest storm for years; snow 36 inches on the level. Lewes, Del., 4th, most violent snow storm for years; wind attained an estimated velocity of 70 miles per hour. Along both the Middle Atlantic and New England coasts this storm proved to be the heaviest and most destructive for years. Many marine disasters occurred and immense drifts formed, which blockaded all railroad traffic for several days. Port Jervis, N. Y., 1st, snow fell to the depth of 14 inches. Poughkeepsie, N. Y., 1st, snow fell to the depth of 12 inches, and at several points on Long Island, to a depth of 16 inches. Boston, 1st, snow 18 inches on the level; one of the heaviest storms for many years. Long Branch, N. J., 4th, most violent snow storm on these shores for many years. Snow on the ground from 6 inches to 6 feet deep. Drifts in many places rendered travel impossible. All trains delayed. Easton, Pa., 4th, severest storm of the season; railway trains delayed in all directions. Poughkeepsie, N. Y., 4th, storm commenced at 11 a. m. and raged with great fury until 7.30 a. m. of the 5th. Travel of all kinds suspended. Freeport, Long Island, 4th, ten inches fell during the day; storm still raging. Baltimore, 4th, snow 12 to 14 inches on the level and in many places drifted from 4 to 6 feet deep. Gloucester, Mass., 1st, snow 18 inches on the level; in many places, drifted to a depth of 12 feet and in the main streets from 6 to 8 feet on the north side. Schools closed throughout the city and business generally suspended. Plymouth, Mass., 1st, severest storm for many years. Lebanon, N. H., 22d, 14 inches on the level; heaviest storm of the season. Derby Line, Vt., 22d, 10 to 15 inches on the level. Hanover, N. H., 22d, 12 inches on the level; heaviest fall of the season. Montreal, Can., 22d, streets blockaded with 4 feet of snow; all travel seriously obstructed. Philadelphia, 4th, all traffic much impeded; snow 10 to 15 inches on the level. Reports from various parts of the State show that the storm was most violent in the mountains west of Harrisburg. At many places the snow fell to a depth of three feet. At Williamsport, Sunbury, Reading and Pottsville, and in the northern part of the State the storm proved to be very violent. South Framingham, Mass., 1st, in Worcester, Middlesex and Norfolk counties, highways blockaded; railway trains all delayed. Snow over 20 inches deep on the level. Lowell, Mass., 1st, snow 18 inches on the level. Narrowsburg, N. Y., 1st, snow two feet deep. Monticello, N. Y., 1st, snow 20 inches on the level. Concord, N. H., 11th, snow fell to the depth of 10 inches on the level, making a total of 70 inches since the 1st, "a greater amount than that which has fallen in the whole month of February for the past 20 years." St. John, N. B., 10th, heavy snow storm accompanied by violent winds from the northeast. All trains on the St. John and Maine R. R. blockaded and "tremendous drifts" formed on the Inter-colonial R. R. The car shed of the latter railway company was demolished by the heavy weight of snow; loss estimated at \$75,000. Port Jervis, N. Y., 4th, snow 10 to 15 inches on the level and drifted badly; travel seriously impeded. Fredericksburg, Va., 4th, heavy northeast storm for past 15 hours; snow 12 inches deep on the level. Trains delayed and all communication on wagon roads cut off. Petersburg, Va., 4th, violent snow storm, extending south to Weldon, N. C., and westward beyond Lynchburg. At points along the Norfolk and Western R. R., snow 10 to

15 inches deep. Washington, D. C., 4th, snow fell to the depth of from 12 to 14 inches on the level. Street car travel seriously obstructed.

Largest Monthly Snow-falls.—Emigrant Gap, Cal., 94 inches; Summit, Cal., 90; Cisco, Cal., 85; Mt. Washington, 54.50; Truckee, Nev., 49.50; Alta, Cal., 49; Princeton, Mass., 44; Westborough, Mass., 42.50; Dayton, Wash. T., 42.40; Newport, Vt., 39.55; Antrim, N. H., 38.50; Contoocookville, N. H., 37; New Market, N. H., 36.60; Lunenburg, Vt., 36.50; Boca, Nev., 36; Boston, and Grafton, N. H., 34; Woodstock, Vt., 30.75; Eastport, 31.40; Dexter, Me., 30.50; Worcester, Mass., 30.25; Rowe and South Lee, Mass., 30; Marquette, Mich., about 30; Colfax, Cal., and White Plains, N. Y., 29; New Bedford, Mass., about 27; Strafford, Vt., 26; New Shoreham, R. I., 25.30; Rochester, 24.60; Corinne, Utah and Deer Park, Md., 24; Somerset, Mass., and Ft. Myer, Va., 23.30; St. Paul, 22.60; Ashland, Wis., 22; San Geronio, Cal., 21.50; Amherst, Mass., 20; Northfield, Minn., 19.90; Dyberry, Pa., 19.50; Berryvale, Cal., and Helvetia, W. Va., 19; Kelton, Utah, and Port Jervis, N. Y., 18; New London, Conn., about 18; Charlotte, Vt., and Northport, Mich., 17; Escanaba, Mich., and Keene, Cal., 16; Prescott, Ariz., about 16; Fall River, Mass., 15.50; Newport, R. I., and Tehachapi, Cal., 15; Winnemucca, Nev., about 15; Johnstown, N. Y., 14.70; Freehold, N. J., 14.50; Washington, D. C., 14.20; Otega, Nev., 13.75; Catawissa, Pa., 13.40; Palermo, N. Y., and Southington, Conn., 13; Eagle Rock, Idaho, 12.70; Grand Haven, 12.60; South Orange, N. J., 12.25; Atlantic City, 12.10; Acotink and Wytheville, Va., Vineland, N. J., Chambersburg, Pa., and Carson City, Nev., 12; Port Huron, 11.90; Ogden, Utah, 11.88; Waterburg, N. Y., and Promontory, Utah, 11.50; Duluth, Minn., 10.80; Lynchburg, Va., 10.70; Ardenia, N. Y., 10.50; Pagosa Springs, Col., Halleck, Nev., Flushing, N. Y., Logan, Ia., Fallston, Md., Princeton, N. J., and Franklin, Wis., 10; New York City, about 10; Wells, Nev., 9.75; Manitowoc, Wis., and West Chester, Pa., 9; Sandusky, 8.80; Terrace, Utah, Moorestown, N. J., and Friendship, N. Y., 8.50; St. Vincent, Minn., 8.30; Fallsington, Pa., Lincoln, Neb., Cooperstown, N. Y., Coalville, Utah, and Moorhead, Minn., 8; Ft. Missoula, Mont., about 8; Ithaca, N. Y., Somerville, N. J., and New Athens, Ohio, 7.50; Albany, N. Y., and Neillsville, Wis., 7.30; Battle Mountain and Palisade, Nev., Red Bluff, Cal., Williamsport, Pa., and Phillipsburg, N. J., 7.

Depth of Snow on Ground at end of Month.—Colorado: Pike's Peak, about 6 inches. Connecticut: Southington, remains of drifts; New London, trace. Idaho: Eagle Rock, 3½ inches. Iowa: Ames, 4½ inches. Maine: Gardiner, 30 inches, Orono, 10 inches, Eastport, 7 inches. Massachusetts: Somerset, trace; Rowe, 20 inches; Amherst, patches in scattering places; Worcester, ground bare in many places; Springfield, 6 inches; Boston, 3 inches; Provincetown, 1 inch. Michigan: Northport, ½ inch; Marquette, 12 inches; Escanaba, 0 to ½ inch. Minnesota: Northfield, Moorhead and St. Paul, trace; Duluth, 4 inches; St. Vincent, 11 inches. Montana: Ft. Missoula, 4 inches; Helena, 1 inch; Nevada: Pioche, 4 inches. New Hampshire: Grafton, 16 inches; Mt. Washington, 29 inches; New Market, 13 inches. New Mexico: Santa Fe, trace to 3 inches. New York: Albany, 2 inches; Cooperstown, 4 inches; Ithaca, Oswego and Palermo, trace; Johnson, 4 inches; Pennsylvania: Catawissa, trace on hills; Dyberry, 6 inches. Rhode Island: Newport, none in open country, but in sheltered places small quantities remain from the heavy storm that occurred on the 4th and 5th. Utah: Salt Lake City, trace. Vermont: Burlington and Strafford, 6 inches; Charlotte, 4 to 8 inches; Newport, about 10 inches; Woodstock, 13 inches.

Rain, Hail or Snow from a Cloudless Sky.—Burlington, Vt., 1st, light snow at intervals during the day and night; 2d, 5th, 6th, 13th, 22d, 23d.

Hail.—Mobile, Ala., 28th, 11.30 a. m., lasting one minute; hailstones ½ inch in diameter. Mason, Tex., 27th, 7.50 p. m., last-

ing ten minutes; hailstones as large as pigeon's eggs. Fort Cummings, N. M., 27th, light hail. Camp Grant, Ariz., 19th, 10.30 to 11.30 a. m. San Francisco, 11th, 4.55 to 4.57 p. m.; 16th, 4.15 p. m. Los Angeles, Cal., 19th, 3 p. m., hail fell near the foot hills, 5 miles north and in Sierra Madre Mountains, 13 miles north of station. Visalia, Cal., 17th. San Diego, Cal., 1st, 7.22 to 7.25 p. m., hailstones were soft and about the size of peas; 17th, 12.20 p. m., small hail. Pt. San Jose, Cal., 15th. Presidio, Cal., 11th, 6.30 a. m. Fort Stevens, Or., 5th. Fort Townsend, Wash. Ty., 10th. Paterson, N. J., 21st, 5.45 p. m., heavy fall of hail lasting 10 minutes. Ardenia, N. Y., 21st. Clarksville, Tex., 27th, hailstones one inch in diameter.

Sleet.—The dates on which sleet fell in the various districts are given as follows: New England, 9th, 10th, 12th, 20th, 21st, 23d; Middle Atlantic States, 4th, 5th, 19th, 21st; Ohio Valley, Cincinnati, 21st; Upper Mississippi Valley, 2d, 17th to 21st; Missouri Valley, 17th to 22d; Southern Slope, 7th, 8th, 19th, 20th; Southern Plateau, La Mesilla, 2d, Ft. Verde and Camp Grant, Ariz., 19th; Northern Slope, Ft. Washakie, Wyo., 16th; Northern Plateau, Umatilla, Or., 22d; North Pacific Coast Region, 12th, 16th, 20th; South Pacific Coast Region, Visalia, Cal., 17th. Unusually severe sleet storms have been reported, as follows: Toledo, throughout the night of 20th and during the 21st a storm of rain, sleet and snow raged with great violence; telegraph poles were prostrated and great damage done to fruit and shade trees. Telegraph lines were down in every direction; all communication cut off. The principal cause of destruction to property was the heavy sleet, which prevailed over an area of country within a radius of 20 miles about Toledo. Damage estimated at over \$5,000. Port Huron, Mich., 21st, everything covered with a thick coating of ice. A telegraph pole, supporting 30 wires, was broken down under its weight. Ft. Madison, Iowa, storm commenced on 19th and continued during 20th and 21st; rain froze as it fell; ground was covered with a sheet of ice; trees were weighed down with ice, and many limbs broken off. Ft. Scott, Kan., 20th to 24th; trees heavily loaded with ice; much damage done. Yates Centre, Kan., 19th and 20th, all exposed objects covered with ice ½ inch in thickness; storm the severest of the kind that has been experienced here for 3 years; sleet covered the ground to a depth of 4 inches. Warrenton, Mo., 20th, trees covered with ice; many evergreens broken down. Dyberry, Pa., 21st, trees on the hills loaded with ice an inch thick; thousands of limbs were broken off and many whole trees fell. All trees looked like weeping-willows under the weight of ice. Embarrass, Wis., 20th, ground covered with a sheet of ice. Keokuk, 19th, 20th, rain freezing as it fell, weighing down telegraph wires, trees, etc. Rochester 20th, very violent storm began in the early evening, accompanied by high wind velocities from the south and southwest. The damage alone to window-glass and sky-lights reached thousands of dollars. Shade trees and telegraph and telephone wires were badly damaged.

Drought.—Deadwood, Dak., 27th, the small precipitation of past two months has caused great complaint as to scarcity of water in this city and in the rural districts.

RELATIVE HUMIDITY.

The percentage of mean relative humidity for the month ranges as follows: New England, from 71 to 81; Middle Atlantic States, 61 to 82; South Atlantic States, 65 to 79; Florida Peninsula, 71 to 73; East Gulf States, 69 to 78; West Gulf States, 64 to 83; Rio Grande Valley, 67 to 81; Ohio Valley and Tennessee, 67 to 72; Lower Lake Region, 70 to 79; Upper Lake Region, 72 to 82; Extreme Northwest, 61 to 88; Upper Mississippi Valley, 61 to 74; Missouri Valley, 62 to 74; Northern Slope, 54 to 69; Middle Slope, 52 to 60; Southern Slope, 61 to 82; Southern Plateau, 55 to 70; Middle Plateau, 50 to 71; Northern Plateau, 61 to 85; North Pacific Coast Region, Olympia, 82.8, Portland, 82.5; Middle Pacific Coast Region, 69 to 75; South Pacific Coast Region, 46 to 70. High stations report the following percentages not corrected for altitude: